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ENVIRONMENTAL IMPACT STATEMENT

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Pursuant to: Montana Environmental Policy Act
Section 69-6504 (b) (3)

Project No. FG-6

Streambank Stabilization in a Section of the Jocko River above the Arlee Hatchery

February 18, 1972

Prepared by

Montana Fish and Game Department
Fisheries Division
Helena, Montana

I. Purpose.

The purpose of the project is to stabilize eroding streambanks on the Jocko River in a section above the Arlee State Fish Hatchery, a Fish and Game Department installation.

II. Description of the Project.

The project consists of anchoring logs along the streambank at six critical points of bank erosion on the Jocko River. The logs will be secured to existing trees with steel cable. Where this has been done previously in the same section of stream, sediment has filled in around the logs, the bank profile has been changed from steep to sloping and pools have been formed that attract fish. This is an area that has a history of extremely poor fishing. Normally the logs would be in the water only during high water periods.

III. Description of Existing Environment.

A. Human Resources - Not applicable.

B. Physiography and Geology.

The Jocko River, in a section that extends some 1600 to 1700 feet above the Arlee Fish Hatchery, meanders across a fairly wide floodplain made up of gravel and boulders overlaid with a silt and humus soil of varying depths. The bank areas in the six sites indicated on the map are quite steep and from five to six feet high.

C. Land Use.

Cattle are grazed on the land.

D. Fish and Wildlife.

Historically, fishing has been very poor in this section of the Jocko River. Flow volumes have been quite extreme, ranging from floods to nearly dry. The channel shifts within the streambed so that few permanent pools are established. The pools formed where logs have been anchored have attracted fish where there were none before. Access to the area is poor because it lies on private land located on the Indian Reservation.

Wildlife would consist of the numerous small game and birds associated with a wooded streambottom.

E. Vegetative Resources.

The bottomland is covered with large cottonwood trees, some juniper, a few conifers and a fairly heavy understory of brushy growth. Open areas are covered with grass. Other than for grazing and for wildlife the vegetative resources are not harvested.

F. Climate - Not applicable.

G. Transportation System - Not applicable.

H. Utility System - Not applicable.

IV. Evaluation of Environmental Impact.

A. Environmental Impact of Proposed Action.

The proposed action of anchoring logs at points of bank erosion in a section of the Jocko River would help stabilize the banks and the stream channel, help reduce stream siltation, and form some permanent pools in the channel.

B. Adverse Environmental Effects which cannot be avoided.

No adverse environmental effects are foreseen.

C. Alternatives.

Alternatives to the proposed action would be (1) to riprap banks at points of erosion. This would be too expensive to consider; (2) to use bulldozers and draglines to build levees to confine the channel. Such action has never proven effective, destroys natural habitat and is unsightly; (3) to let the stream continue to erode the critical points. The inaction also results in an unsightly situation and contributes to siltation and erosion.

D. Short-Term - Long-Term Use.

The immediate results of the action would be bank stabilization and reduction of erosion. These results would naturally carry over into long-term use and improve as eroded areas filled in and re-vegetated. There is no guarantee that extremely heavy flooding could not wash out anchor trees, logs and all; however, indications are, from observation of logs presently in place, that they will be quite permanent.

E. Irreversible and Irretrievable Commitment of Resource.

Anchor logs, once in place, would for all practical purposes be irreversibly and irretrievably committed. Once silted in, it would be a major project to remove them.

F. Discussion of Problems and Objections by Other Agencies or the Public.

No problems or objections are foreseen.

V. Benefits.

Benefits to the environment would include stabilization of eroding banks, reduction of siltation, a more aesthetic environment when revegetated and creation of permanent pools in the channel for the support of fish life.

VI. A Summary Statement.

Bank stabilization through the use of anchored logs at critical points would improve considerably that section of the Jocko River above the Arlee Fish Hatchery. The advantage to the hatchery would be that there would be a greater possibility of the river remaining in its channel than of being diverted toward the hatchery buildings and ponds.

VII. A List of Mailing Distribution.

✓Department of Planning and Economic Development
✓Department of Natural Resources
✓State Conservation Commission
✓Department of Health
✓Environmental Quality Council
✓Tribal Council, Confederated Tribes, Ronan
✓A. C. Dumontier, Adjoining Landowner
Office of the Governor
District 2
I & E Division
Student Environmental Research Center

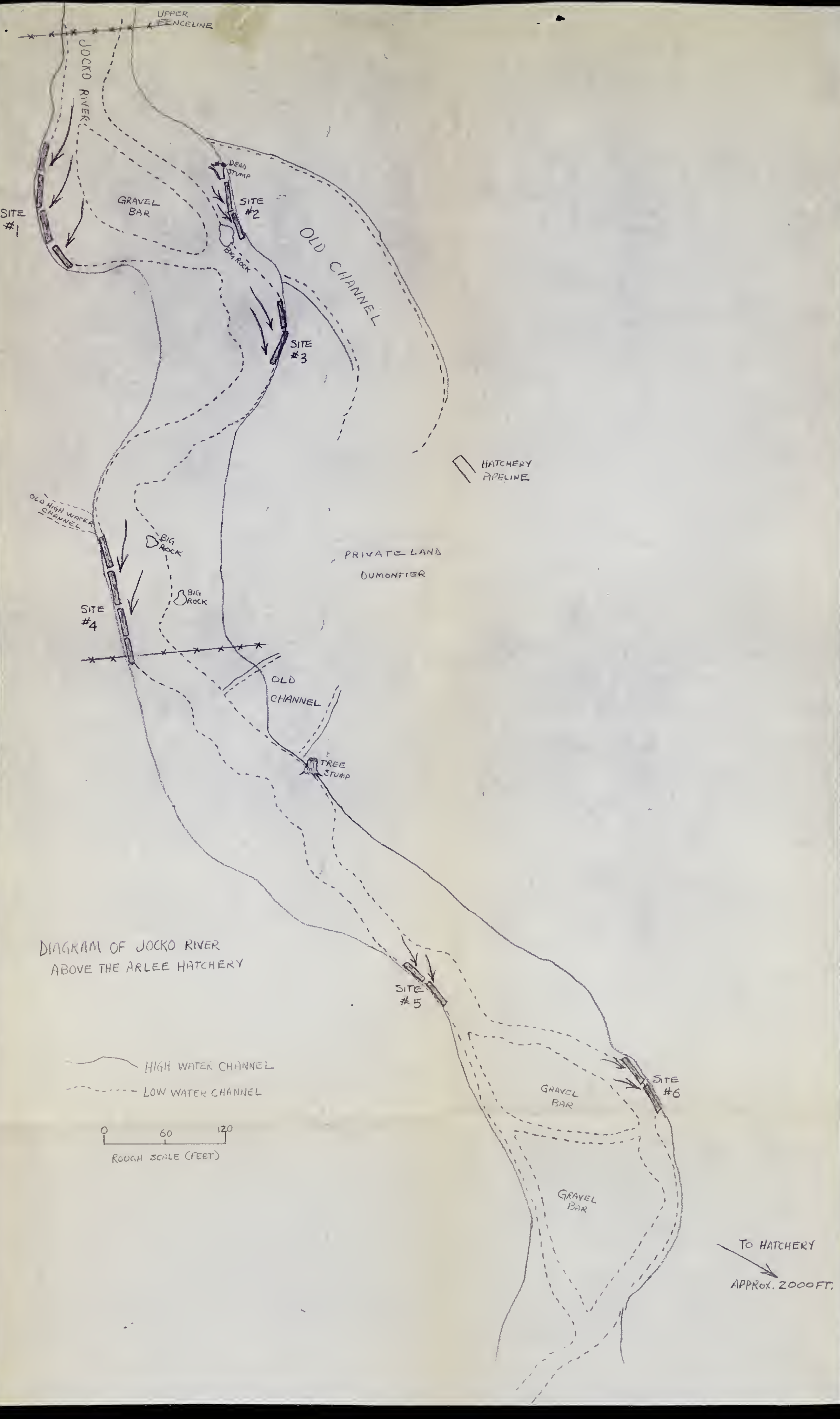

DIAGRAM OF JOCKO RIVER ABOVE THE ARLEE HATCHERY